IBM Global Services

State of California

Child Welfare Services/Case Management System

Contract 31091, Amendment 20

Desktop/Laptop Workstation Recovery Guide for Windows 2000

Amend20 Ref WS Recovery

July 7, 2006

Version 2.83

cws/cms

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1. Document Overview

1.1. Intended Audience

This document is intended for the CWS/CMS Help Desk or other technical staff that will be assisting the actual end user in the process of performing a Workstation Recovery. It is not intended for the end user.

This document assumes the use of the dedicated county image and dedicated county recovery process. Co-existent counties have a wide range of images and recovery processes that may vary significantly from this document.

It is assumed the reader of this document has a basic technical understanding of all the hardware supported by the CWS/CMS project, a basic understanding of Windows 2000, and the ability to support customers over the phone. Detailed instructions on performing basic tasks will not be provided by this document as it is assumed that these are tasks the audience already understands.

1.2. Process Brief

This process should be used only when the Boulder Help Desk has agreed this is the most effective and efficient solution to a user's problem.

The user must know which machine they want to do the recovery on, and they will have to be sure they have the appropriate CD-ROM(s) for that machine type. Each recovery CD-ROM will be labeled according to the machine type it supports. See *Appendix A* for a mapping of machine types to images and their current version. At this time, the only supported recovery method is via Bootable CD-ROM.[1]

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[1] Each CD-ROM will also have a "Diskette" directory on it that can be used to create a boot-disk for the machine type. We have included this as a courtesy for users that have the required CD-ROM in their system, but the machine will not support booting from a CD-ROM. It is not expected that this process will be used; it is provided as a contingency plan.

1.2.1. Recovery Process Brief

In brief, the recovery process will go through the following steps (some of which may not be visible to the user):

1. The Recovery Process detects an existing CWS/CMS Windows 2000 image[2].

2. The user is prompted to confirm they want to continue, as well as being reminded that they should perform any data backup prior to this process.

3. The user is asked again to confirm the replacement of their image.

4. The Recovery Process replaces the Windows 2000 image partition with a current CWS/CMS Windows 2000 workstation image. This part of the process takes approximately 15 minutes.

5. The user is instructed to remove the Recovery CD-ROM and reboot the machine. The next part of the process is a Windows 2000 mini-setup, which does not require any user interaction. This part of the process takes approximately five minutes.

6. After the mini-setup is complete and the workstation has rebooted, an Automated Workstation Configuration Process begins. This process takes approximately ten minutes and requires some user interaction. Once the automated process is complete, the user is notified and the machine reboots.

7. The user logs on using their User ID/password, and any updates are pulled down from the network. Some additional manual configurations may also need to be performed.

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[2] The process determines an existing Windows 2000 CWS/CMS image by looking for the hidden file *cws-wks.flg* on the data drive, which is C: from a DOS boot. It is possible that it could be an existing CWS/CMS Windows 2000 workstation on which the file has been deleted, in which case the process will proceed as if it is a new hard drive or unrecognized image.

2. The Recovery Process

2.1. Required Information Prior to Starting the Recovery

When recovery is required, record the following information if possible. This information will be used to complete the recovery of the new Windows 2000 image.

Computer Machine Type (M/T)	The user must know the machine type to determine the proper image CD-ROM to use in the recovery process. Each CD-ROM is machine-specific.
Computer Serial Number (S/N)	CWS/CMS uses the serial number of the workstation as the workstation name. This information will be required during the Automated Workstation Configuration Process.
Printer Port Names	1. Click **Start** | **Settings** | **Printers** 2. Single-click on each **Printer** icon in the window. 3. Note the text (queue name and server name) under each icon.

2.2. Backup of the User's Data

The users are responsible for backing up their data. However, the project has provided a basic "backup" process that will capture some, if not all, of the basic user files. The user can choose to use this method, but the project will not be responsible for any loss of data resulting from the use of this process.

To use this process, do the following:

1. Insert the recovery CD-ROM into the machine while Windows 2000 is running AND the user is logged onto the machine. The data migration program will run automatically[3].

2. An introduction to the "Best Effort" data migration and a disclaimer stating the user is ultimately responsible for their data backup is shown. Click **Continue**.

3. The user will then be notified when the process is complete.

4. Press **Finished** when it is completed.

It is still recommended the user perform their own backup. The process included on the CD-ROM may not capture all the user's documents. This is what it captures:

♦ All files in the currently logged on user's **My Documents** folder

♦ Logged on users .PAB file

Any data needed beyond the list above will not be captured. Any additional users that share the machine[4] will not have their private and secured data backed up.

This basic backup may not be sufficient under all circumstances. Users need to remember that a complete backup is their responsibility[5].

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[3] If the "Best Effort" data migration does not kick off automatically, run the DATAMIG.EXE file in the *scripts* folder on the recovery CD.

[4] Because of the system security, as well as the strong possibility of document confusion or even duplication, more than one user's data will not be automatically backed up from the system. If the machine is a shared, it is recommended the user ask the help desk for any additional assistance needed beyond the basic backup.

[5] When operating system damage is the reason for a recovery, unlike with Windows 95, the technician cannot simply boot with a DOS disk and recover the files, which is a security violation. Advanced troubleshooting measures can be taken if there is the possibility of severe data loss. In this case, *some* things to consider are: 1) making the drive a slave to another Windows 2000 system to access the data and 2) reinstalling Windows 2000 over the top of the current image using the original distribution CD-ROM from Microsoft. There are numerous ways that a Windows 2000 machine may fail, and these two options will probably cover most of them, but is by no means to be considered all-inclusive by detecting what kind of image the user has, whether it is a new hard drive or unrecognized image, or a Windows 2000 recovery. For this document, the latter of the three is assumed. If the user has a new hard drive or unrecognized image, the recovery process will still work. However, the user will be prompted only once if they want to continue, and the "best effort" data migration will not be available.

2.3.   Supported Hardware and Network Adapters

This process only supports the default hardware configured with the machines listed in *Appendix A*. Any customizations to the hardware outside the bounds of *Appendix A* are not supported for this recovery. For example, if the network card is exchanged with another brand, the recovery process may not work. Likewise, there could be problems if the hard drive is replaced with a non-standard drive. Other changes could also cause problems that would not be supported, although there may be ways the county can get around the problems.

2.4.   Recovery Process for all Desktops and Laptops

1. Boot with the appropriate CD-ROM for the machine type.

2. The user is asked if they are sure they want to perform this function. On the same screen, they are told that a data migration should have been performed previously, and given instructions on how to do so if they have not. Assuming they have performed the migration, or are not going to perform it, they press **Y** to continue.

3. Verify that the workstation is connected to the network.

4. The user is prompted again to continue the process. The user presses **Y** to continue the process.

5. The program then deletes the partition with Windows 2000 and loads the partition from the CD-ROM to replace it. When finished, the user is prompted to remove the CD-ROM (and/or any diskette in the system) and reboot the machine. The user removes all media, presses **CTRL+ALT+DEL** to reboot, and continues the process.

6. The computer then starts a "mini setup" of Windows 2000 to configure Windows 2000 for this specific machine. At the end of this process, the machine reboots automatically.

7. Next, the Automated Workstation Configuration Process begins.

8. During the first boot of the Automated Workstation Configuration Process, the computer name will be changed from the default in the image to the serial number of the workstation. This process should run without user interaction[6]. Once the rename is complete, the workstation will reboot.

9. During the second and final boot of the Automated Workstation Configuration Process, the user is asked to select the model/type of system on which they have loaded the image. Once a selection is made, the user is asked to confirm the selection.

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[6] Co-existent counties that do not use serial number as their naming convention may cancel the AutoName process by clicking the "cancel" button and then manually entering the computer name.

10. The user is prompted for their CWS/CMS county and site number[7]. The format for the user's response needs to be *XXYY* (where *XX* is the county number and *YY* is the site number). Leading zeros MUST be included. For example, site one in Alpine would be entered as 0201. The information entered by the user is used to join the workstation to the county domain. Once the county and site information has been entered, the user clicks **OK**[8].

11. If the Automated Domain Join Process was successful, the Domain Users group will be automatically added to the local Power Users group and removed from the local Users group[9].

12. The user will then be notified that the Automated Workstation Configuration Process is complete. They should click **OK** to reboot the workstation.

13. Once the workstation is rebooted, the user is prompted to log on to the domain. They enter their user ID and password and change the domain to match their county number. The login script performs any additional requirements for the machine.

14. There are several manual configuration steps that need to be performed. Please see the *Section 3.0, Workstation Customization after Recovery* section for more information.

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[7] Users at remote sites should enter the site information for their associated server site. This process supports alpha site "numbers" for counties with that configuration.

[8] If the automated domain join fails, the user will be notified and told to complete the process manually. This process must be completed before the user reboots. See the *Recovery Problems* section for more information.

[9] Should the automated move of Domain Users from the local Users group to the local Power Users group fail, the user will be notified. The process should be completed manually. See the *Recovery Problems* section for more information.

2.5. Recovery Problems

There are a number of places where this process can fail. The most common are listed below, along with the solutions.

Problem	Description / Solution
CD-ROM Doesn't Boot	The BIOS should be set to boot first from diskette, second from the CD-ROM, and third from the hard drive. Verify the BIOS is set correctly. If not, correct it. If the BIOS is set correctly, you may need to use the bootable diskette included on the recovery CD-ROM. There is a *diskette* folder on the Recovery CD-ROM and in this folder is a batch file called *makedisk*. Insert a blank diskette into the floppy drive on any workstation and then run the *makedisk* batch file on that same workstation. Then, insert both the Recovery diskette and the Recovery CD-ROM into the workstation you are attempting to recover and reboot it. The workstation should boot from the diskette and kick off the recovery process on the CD-ROM.
Recovery Process reports this is a NEW or Unrecognized image when it is an existing CWS/CMS Windows 2000 workstation.	The recovery process determines the difference between an existing CWS/CMS Window 2000 workstation and an unrecognized image or unformatted hard drive simply by checking for the existence of a hidden flag file (*cws-wks.flg*) in the data partition. If the flag file is not there, the process assumes it is NOT an existing CWS/CMS Windows 2000 workstation. If you are **SURE** the machine is an existing CWS/CMS Windows 2000 workstation, **AND** the 2-GB data drive exists, you may create a hidden file called *cws-wks.flg* (its contents are not important) in the root of the data drive to force the Recovery process to treat this workstation as an existing CWS/CMS Windows 2000 workstation.
Image Version Verification Error: Outdated Image!	Version Error: If the network share is located, the version on the CD-ROM will be checked against what is essentially a flag file on the network share. If the two files don't match, it most likely means the user should get a newer version of the CD-ROM for their image – that is, we have updated the image since the time that the user's CD-ROM was released. This check allows us to maintain a uniform deployment of images across the counties.
Image Version Verification Error: Network Error!	Network Error[10]: If the process cannot find both the version file on the network AND a generic file on the network, this error will be generated. The underlying process involves making a network connection to \\D9908X01\WSIMAGES with the "recovery2k" ID and checking for flag files. If the user is receiving a "network error", the things to check are mostly network connectivity issues, such as a bad/incorrect NIC, network cable not connected, DHCP not

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[10] After the rehost project, anyone using an image version below v2.80 will receive this error. Obtain the latest image CD's from the CWS Helpdesk to correct the error.

Problem	Description / Solution
	functioning, Name Resolution not functioning, WAN outage, server D9908X01 is down, recovery2k account lock out or expired password, etc.[11]
Workstation Name Change failure	It is possible that the automated process to read the BIOS and determine the serial number of the workstation may fail. If this happens, the user will be prompted to enter the serial number and the automatic rename will continue based on the user entry.
Failure to join the Domain	This can be caused by the user entering an incorrect name for the OU/Domain for their location or by network problems. If this happens, the process will not complete and the user will be notified they need to complete this step manually and then reboot.
	It is critical this step is completed before reboot, as the Automated Workstation Configuration Process will be considered complete as soon as the machine is rebooted, and the Administrator will no longer be automatically logged in. A standard CWS/CMS user does not have the authority to add the workstation to the domain, nor to add the "Domain Users" group to the local "Power Users" group.
	To correct the problem, the Help Desk should use Netfinity to access the workstation (or walk the user through it) and perform the process described below:
	1. Select **Run** from the **Start** Menu.
	2. Enter *c:\winnt\cwsrec\jdhelper.vbs* and click **OK**.
	3. JDHELPER will instruct the user to verify network connectivity via IPCONFIG and PING before continuing.
	4. JDHELPER will then prompt the user for their County and Site information[12].
	5. JDHELPER will then display the Domain and OU names that the workstation will attempt to join.
	6. JDHELPER will issue the "*netdom join*" command in a DOS window and the results will be shown in a dialog box. If the join was not successful, action should be taken based on the error given. Please see the *Recovery Problem* section "JDHELPER Errors" for more information.
	If you do not receive an error, the process completed successfully; you can restart the system.
	Once the machine reboots, the Automated Workstation Configuration Process will be considered complete.

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[11] Due to network connectivity restraints from workstations in co-existent counties to server D9908X01, it is likely most co-existent counties will receive this error.

[12] Users at remote sites should enter the site information for their associated server site.

Problem	Description / Solution
Unable to add "Domain Users" to local "Power Users" group	The CWS/CMS user should have "Power User" authority on their local workstation. By default, when the workstation is added to the domain, the "Domain Users" group is added to the local "Users" group. If the automated process fails, the user will have to complete it manually. Most often, this process fails because the workstation is not a member of the domain at the time the automated process is executed. The workstation must be added to the domain before this process can complete. Once the workstation has joined the local county domain, the process can be performed from the command line; a local administrator must issue this command. If the automated process has already completed, and the user is logged in, the Help Desk may need to take remote control of the workstation, log on as an Administrator, and complete the process. To initiate the process manually, open a command prompt and enter: Net localgroup "Power Users" /ADD "Domain Users"
Unable to remove "Domain Users" from local "Users" group.	Most often, this process fails because the workstation is not a member of the domain at the time the automated process is executed. The workstation must be added to the domain before this process can complete, and Domain Users should have successfully been added to the local Power Users group. A local administrator must issue this command from the command line. If the automated process has already completed, and the user is logged in, the Help Desk may need to take remote control of the workstation, log on as an Administrator, and complete the process. To initiate the process manually, open a command prompt and enter: Net localgroup "Users" /DELETE "Domain Users"
Unable to add "WSADMINS" to local "Administrators" group	This error is only applicable in dedicated counties. Most often, this process fails because the workstation is not a member of the domain at the time the automated process is executed. The workstation must be added to the domain before this process can complete. If this process fails, there is nothing that needs to be done manually; however, members of the WSADMINS group will not have Administrative access on this workstation for up to 24 hours.
Failure of the new image to boot	This could be because the image didn't copy properly, or if it did copy correctly, the hardware internally could be incorrect. For example, if the user places a SCSI hard drive in the machine where an IDE drive is the default, the image will not boot. The resolution is to standardize the equipment and try again; be aware that any of the automated backup methods employed by the image CD-ROM may be lost. The CD-ROM's backup methods copy data to the hard drive, which, if replaced, is lost.

Problem	Description / Solution
	There are other methods for resolving problems with booting to the new image, including the option of wiping the entire hard drive clean and starting from scratch. These should be weighed against the loss of data on both the original image and/or on the second partition.
Lost Files/Backup Problems	The automated backup is a "Best Effort" backup, and should not be construed as anything more. It may miss some, or potentially all, of the user's files and settings. It is policy for the users NOT to save personal data to the local machine, and if they do, they are responsible for its safety. The solution to lost data is to recover data from any backups the user may have made.

It should also be noted that the "Best Effort Backup" will only be run if the user places the CD-ROM in the machine WHILE Windows 2000 is running. Otherwise, they will be warned, but no backup will be performed. |
| JDHELPER Errors

<u>What version am I running?</u>

The version of JDHELPER will be shown on the title bar of the window when it runs. An up-to-date version of JDHELPER can be obtained by calling the CWS/CMS Help Desk. | JDHELPER.VBS is a Visual Basic script that assists with the process of joining a domain and adding a workstation to the correct OU. It is usually run when the domain/OU join that is part of the Automated Workstation Configuration Process fails. JDHELPER can produce several different errors. A description of the errors and their resolution are shown below:

This Machine is already joined to a domain:

- The workstation has already joined a domain successfully. Right-click on **My Computer** and choose **Properties**. Then go to the **Network Identification** tab and click **Properties**. Verify the domain name joined is correct. If so, everything is set up and there is no need to run JDHELPER.

Logon Failure: unknown username or bad password:

- Contact Server Management and verify the password for "recovery2k" is set correctly and the account is not locked out.

Access is denied:

- Contact Server Management and verify that "recovery2k" has authority to add computers to the OU for this site.

The account already exists:

- Contact Server Management and have them MOVE the existing computer account. It may be under the Computer folder for the domain, or the "*OUccssComputers*" folder. After Server Management completes the MOVE, wait ten minutes and re-run JDHELPER. |

Problem	Description / Solution
	The Specific domain either does not exist or could not be contacted: • Most likely there is some kind of network connectivity or name resolution error. You can ➢ Verify the IP settings are correct on the workstation. ➢ Verify you can ping the server by IP. ➢ Verify IP address and network connectivity. ➢ Verify you can ping the fully qualified domain name (i.e. "ping cwsd0cc.cws.cahwnet.gov", where cc is the county number). The remote computer is not available (co-ex counties only): • File and Print sharing is not installed on this workstation. Either install this feature (preferred) or use the GUI to join the domain.

3. Workstation Customization after Recovery

3.1. Printer Setup

Before the start of the recovery process, the configuration of the user's print queues should have been documented. This information will be used to set up access to the printers the user had configured on their workstation prior to the workstation recovery.

1. Click **Start** | **Run**.

2. Enter the UNC of the users PRINT server (i.e. *\\D5701W01*) and click **OK**. You should see a list of all shares available on the server. All printer shares will show up as printer icons.

3. Locate the printers the user had configured before the recovery took place. Remember, there should be two icons for each printer, one that uses the *LaserJet IIID* driver and one that uses the print driver that ships with the printer.

4. For each printer that the user needs set up, do the following:

    a. Double-click the printer icon in the **Browse** window.

    b. You will be asked if you want to setup the printer on your computer; click **Yes**.

    c. If the add was successful, The **Print Queue** window will open. Close it.

3.2. Document Restoration

Document restoration is the user's responsibility. There is a directory the user has access to on the D: drive called *Backup* that has a backup of their documents if they chose to use the automated method. They MUST review the *Backup* folder move any documents they consider important back to the **My Documents** folder on the desktop. For a shared workstation, each user is responsible for restoring their documents.

3.3. Changing the Screen Resolution

CWS/CMS Desktop images are set to 800x600 and Laptop Images are set to 1024x768 by default. In most cases, the default screen resolution will be adequate and desirable. In a few instances, the end user may wish to increase (or decrease) the default resolution. Typically this is desired when a desktop image is used with an LCD monitor. To modify the screen resolution, do the following:

• Right-click the desktop, select **Properties**, then click the **Settings** tab.

• Drag the selector under **Screen area** to the desired resolution and click **Apply** (for LCDs this is typically 1024x768 or 1280x1024).

• You will see a test of your resolution selection. When prompted, select if you want to use the selected resolution.

3.4. Outlook Configuration

Based on their login ID, the user's e-mail should be automatically configured as soon as they launch it. However, you should copy their Personal Address Book file back into the Outlook directory. By default, Outlook will generate a blank Personal Address Book file for the user when they log on. However, if the user has one, then the file should replace the default one created by Outlook. Any replacement should be renamed to the user ID with the .PAB extension (e.g., *username*.pab).

The file should be placed in the following location:

> C:\Documents and Settings*username*\Application Data\Microsoft\Outlook

Launch Outlook once to verify connectivity with their exchange server. Once launched, click **Yes** to make Outlook the default tool for mail and news. Then clear the option to **Show these choices at startup** and click **OK**. Hide the Office Assistant, delete the newly created messages in the Inbox that are called "Special Offers for Outlook Users" and "Welcome to Microsoft Outlook 98".

For a shared workstation, this process needs to be performed for each user that logs on to the workstation.

3.5. CWS/CMS Application Install and Test

1. Log on to the Domain and execute the logon script.

2. Click the CWS/CMS application icon on the Quick Launch bar.

3. The CWS/CMS application installs.

4. Reboot the workstation.

5. Log on to Domain and execute the logon script.

6. Click on the CWS/CMS application Icon on the Quick Launch bar.

7. Log on to the CWS/CMS application.

8. Make sure the **CWS/CMS Control Panel** starts. If it does, close the **CWS/CMS Control Panel**. If it does not start, reboot and try again, then perform normal troubleshooting applicable to the CWS/CMS application.

3.6. Configuration of Microsoft Dial-up Client[13]

This process is required for laptops and ASA desktops ONLY. Before performing this process, make sure you have logged in via the LAN and configured/tested the CWS/CMS application (For more detailed Dial-up Client configuration instructions, see the *W2K Laptop Users Guide*).

1. Log on to the workstation with the Windows/Domain ID of the user you wish to configure Microsoft Dial-up Client.

2. Select Network and Dial-up Connections from the Start Menu (under Start->Settings).

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[13] Configuration instructions for AT&T Net Client have been removed from this guide. If you are still using AT&T Net Client, those instructions can be found in an older version (2.70 to 2.71a) of this guide or in Version 2.0 of the W2K Laptop Users Guide.

3. The **Network and Dial-up Connections** window will open. Double-click on **Make a New Connection.** This will start the Network Connection Wizard**.**

4. When you see the Welcome to the Network Connection Wizard window, click **NEXT.**

5. Make sure **Dial-up to private network** is selected and click **NEXT.**

6. Select your modem from the list (unselect Infrared Modem Port) and click **NEXT.**

7. Enter **1-800-923-7725** in the **Phone Number** field and click **NEXT.**

8. Type **CWS Dial-up** as the name of the connection. Check **Add a shortcut to my desktop** and click **FINISH.**

9. The **Connect CWS Dial-up** window will appear. Click **CANCEL** to close the window.

10. Close the **Network and Dial-up Connections** window.

11. You should see a **CWS Dial-up** icon on your desktop

12. Configure Proxy:

- If the user is going to access any web sites while dialed up, the proxy server configuration must also be performed.

- Open **Microsoft Internet Explorer** by double-clicking on the desktop icon.

- Select **Internet Options** from the **Tools** menu in Internet Explorer.

- Select the **Connections** tab. Then, select **CWS Dial-up** and click **SETTINGS**.

- Check **Use a proxy server for this connection**

- In the Address field, enter: **hhsdcproxy.cws.cahwnet.gov**

- In the Port field, enter: **8080**

- Click OK to close the **CWS Dial-up Settings** window.

- Click OK to close the **Internet Options** window.

- Close Internet Explorer

For detailed usage, testing, and configuration procedures on laptops, please see the *W2K Laptop Users Guide.*

Appendix A – Hardware Configurations

The models listed below are current as of the date of this document.

Desktop Workstation Reference Matrix

Model #	Model Name	CPU	Hard Drive	Memory	Current Image (Name and Version)
6275-GZA/90U	IBM PC300GL	PIII-500	8.4gb	64MB	6275-XXX v1.22
6578-NCU	IBM NetVista A40	PIII-800	20.0gb	128MB	6578-XXX v1.22
6578-RBU	IBM NetVista A40	PIII-933	20.0gb	128MB	6578-XXX v1.22
6578-THU (F3U)	IBM NetVista A40	PIII-1000	20.0gb	256MB	6578-XXX v1.22
6792-22U (R6U/R5U/R7U)	IBM NetVista M41	P4-1800	40.0gb	256MB	CWSP4 v2.83
8305-31U (RJU/RKU/TAU)	IBM NetVista M42	P4-2260	40.0gb	256MB	CWSP4 v2.83
8319-41U	IBM NetVista S42	P4-2400	40.0gb	256MB	CWSP4 v2.83
8183-46U	IBM ThinkCentre S50	P4-3060	40.0gb	256MB	CWSP4 v2.83
8185-F1U	IBM ThinkCentre M50	P4-3060	40.0gb	512MB	CWSP4 v2.83
8183-D7U	IBM ThinkCentre S50	P4-3060	40.0gb	512MB	CWSP4 v2.83
DLGX-270	Dell Optiplex GX270	P4-2200	40.0gb	256MB	CWSP4 v2.83
DLGX-280	Dell Optiplex GX280	P4-2800	40.0gb	256MB	CWSP4 v2.83
GW-E4300	Gateway E4300	P4-3200	80.0gb	512MB	CWSP4 v2.83
8171-21U	IBM ThinkCentre S51	P4(530)-3000	40.0gb	512MB	CWSP4 v2.83
8171-2DU	IBM ThinkCentre S51	P4(530)-3000	80.0gb	512MB	CWSP4 v2.83
HP-7600	HP Compaq DC7600	P4-2800	40.0gb	256MB	CWSP4 v2.83
HP-7655	HP e-PC 42 (A7655T)	P4-1700	40.0gb	512MB	CWSP4 v2.83
GW-E4000	Gateway E4000	P4-2400	40.0gb	384MB	CWSP4 v2.83
8212-H1U	Lenovo ThinkCentre M52	P4(630)-3000	80.0gb	512MB	CWSP4 v2.83
GW-E4500s	Gateway E4500s	P4-2800	40.0gb	512MB	CWSP4 v2.83
DLGX-520	Dell Optiplex GX520	P4-2800	75.0gb	256MB	CWSP4 v2.83

Laptop Workstation Reference Matrix

Model #	Model Name	CPU	Hard Drive	Memory	Current Image (Name/Version)
2647-44U	Thinkpad T20	PIII-700	12.0gb	128MB	LAPTOP v2.83
2647-8AU	Thinkpad T21	PIII-800	20.0gb	128MB	LAPTOP v2.83
2647-8EU	Thinkpad T22	PIII-900	20.0gb	128MB	LAPTOP v2.83
2647-4MU	Thinkpad T23	PIII-1130	30.0gb	256MB	LAPTOP v2.83
2658-N3U	Thinkpad R32	PM-2000	30.0gb	256MB	LAPTOP v2.83
2722-58U	Thinkpad R40	PM-1300	40.0gb	256MB	LAPTOP v2.83
2723-F2U	Thinkpad R40	PM-1500	40.0gb	256MB	LAPTOP v2.83
GWL-M405	Gateway M405	PM-1500	40.0gb	256MB	LAPTOP v2.83
2687-D3U	Thinkpad T43	PM-1800	60.0gb	512MB	LAPTOP v2.83
PAN-CF29	Panasonic CF-29	PM-1300	40.0gb	256MB	LAPTOP v2.83

Appendix B – Switching between Training and Production Domains

This appendix describes how to configure a workstation so it can log on to both the CWS/CMS Production domain and the CWS/CMS Training domain in a county. This process will only work if workstations in the county are NOT joined to a county-managed domain.

The steps below will add the Production domain users to the Power Users group on workstations that are joined to the Training domain. Follow these steps if workstations joined to the Training domain will be used to log into CWS/CMS production servers.

The opposite procedure could be used if workstations joined to the Production domain need to log on to the Training domain.

The screen shots in this document assume the workstation is joined to Training domain CWSE011 and the goal is to also have the workstation log into the Production domain CWSD011.
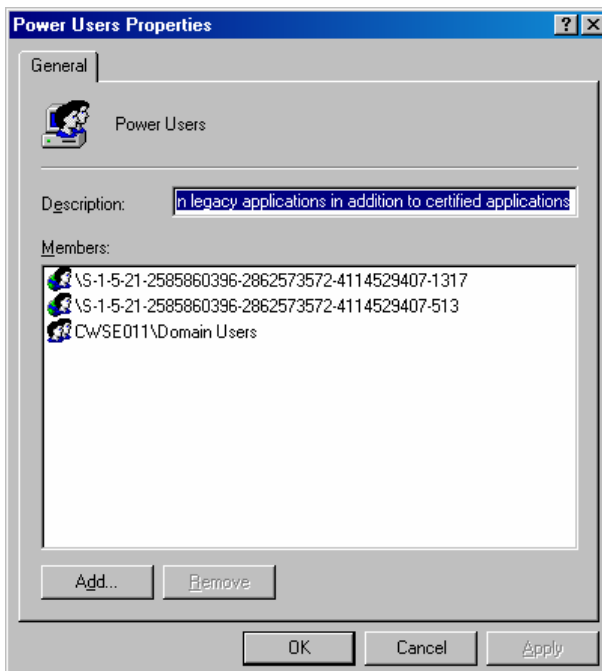
1. Log on to the workstation with an ID that has local administrative authority.
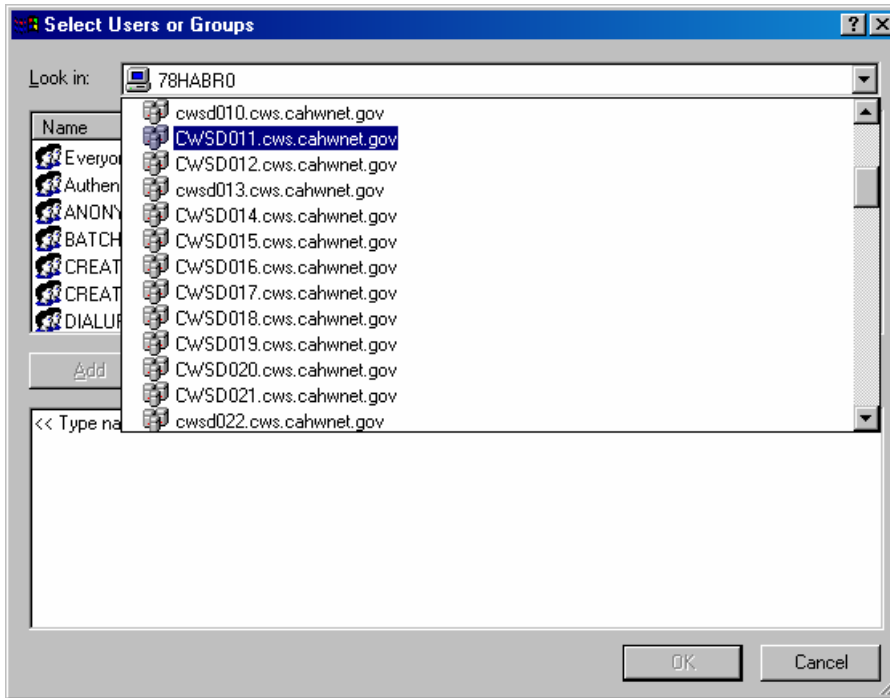2. Right-click on **My Computer** and select **Manage**.
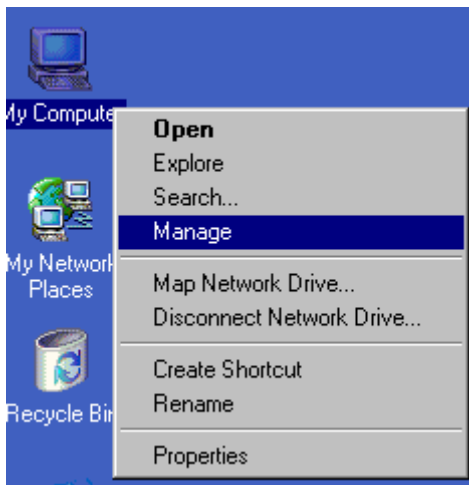
3. Open the **Local Users and Groups > Groups** and double-click on **Power Users**.
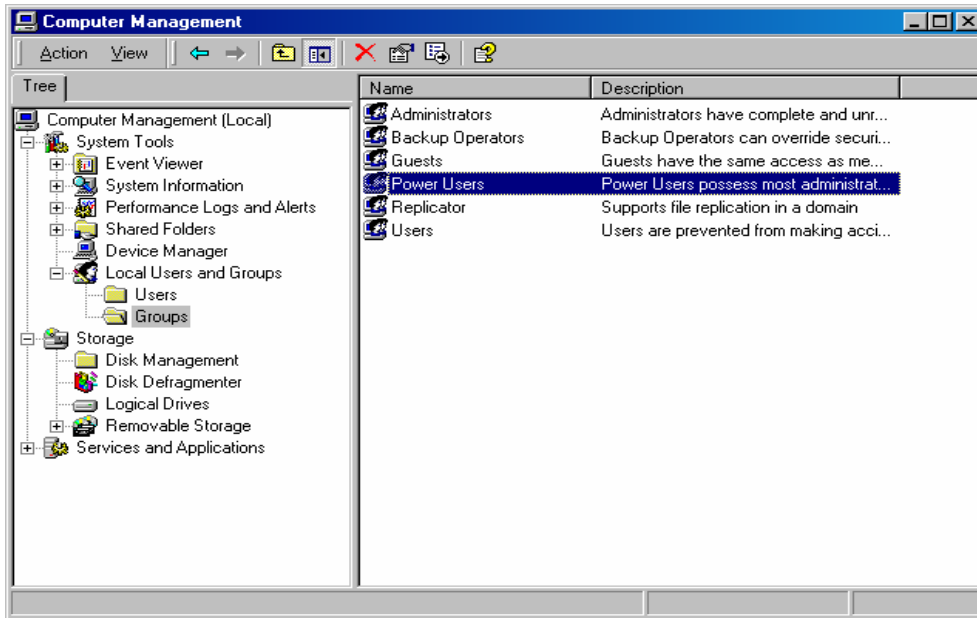

4. You should see the "Domain Users" group for the domain the workstation is a member of.
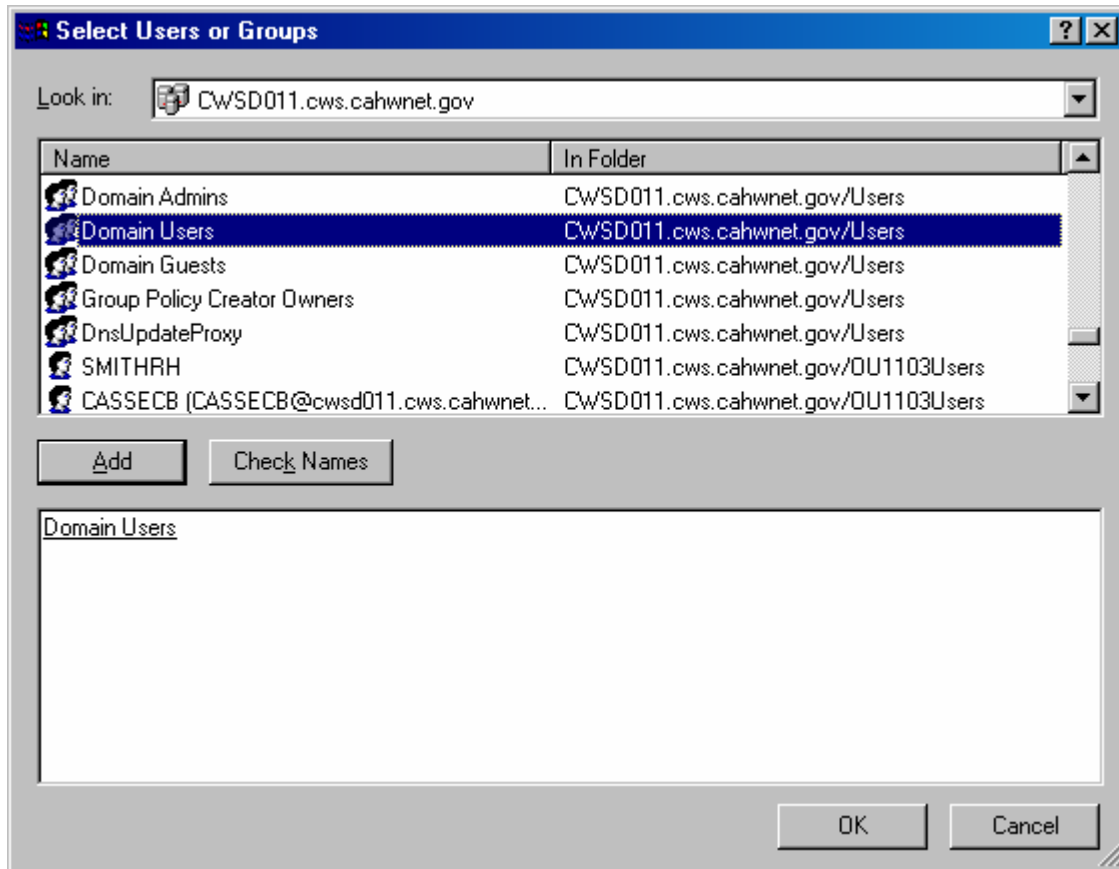
5. Click **Add**.

6. Select the Production domain in the **Look In** dropdown list. (*CWSD0xx* where *xx* is replaced with the county number).
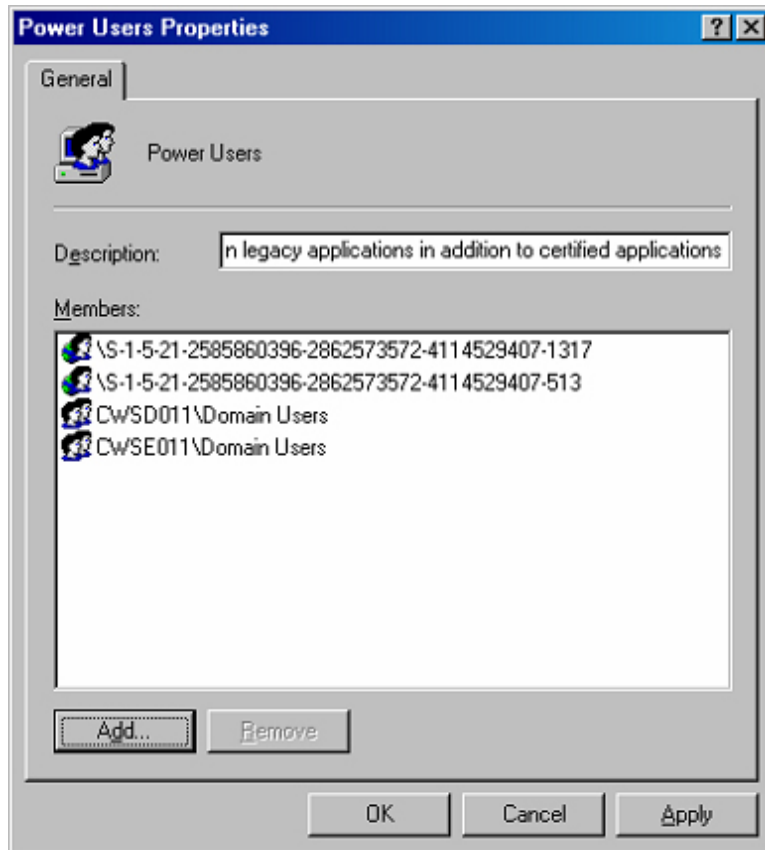

7. When prompted for a User ID/Password, use any CWS User ID and password on the domain you wish to add to "Power Users". When entering the ID, make sure and use the format "DOMAIN\ID".
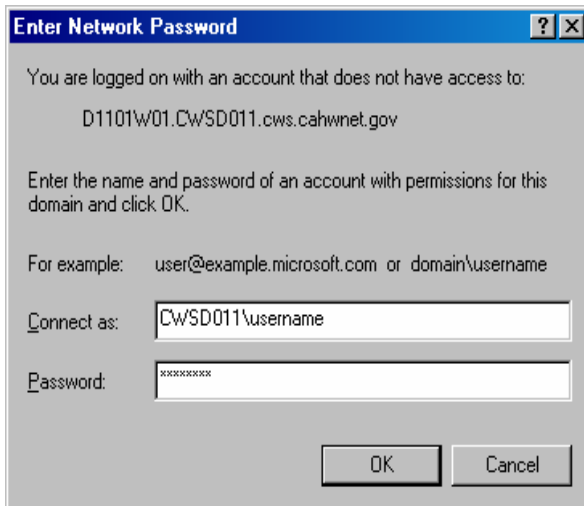
8. Click the *Domain Users* group and then click **Add**.

9. Click **OK** in the *Select Users or Groups* window.

10. A new entry should appear in the *Power Users* Properties window for CWSDxx/Domain Users. Click **OK**.

11. Close all windows and reboot for changes to take effect.

Appendix C – Document Change Log

1.0 – 2/15/02	Initial Release as a deliverable for WA6
1.0a – 2/27/02	Added instructions for dealing with a BIOSREAD hang. Added hardware descriptions for T23 & R30 laptops. Added Document Change Log section.
1.0b – 8/9/02	Removed R30 laptop hardware information. Added 6792-22U desktop hardware information. Added additional Global Dialer configuration steps. Added procedure to update refresh rate on the monitor.
1.04 – 11/20/02	Added 8305-31U desktop hardware information. Added trouble-shooting information for JDHELPER v2.0
1.04a – 11/26/02	Added additional 8305-31U model numbers. Added additional error to JDHELPER trouble-shooting.
1.05 – 1/07/03	Added hardware description for T30 laptop. Added footnote to discuss how to cancel the AutoName process.
1.10 – 1/31/03	Added note to inform user a "Refresh Rate Update" may not be required on images v1.10 and later as the refresh rate is already set to 85hz.
1.10a – 2/14/03	Updated information on "best effort" data migration to include all file extensions backed up as well as the new DATAMIG.EXE file.
1.10b – 5/19/03	Added 8319-41U & 2658-N3U hardware information.
1.11 – 9/26/03	Updated information per JDHELPER v2.5 changes & Added path to Outlook PAB file.
1.22 – 2/3/04	Added Dell GX270, 8183-46U, 8185-F1U, and R40 hardware info. Added footnotes informing users at remote site to use the county/site information for their server site when joining a domain. Added information for "Unable to add WSADMINS to Local Administrators Group" error message.
2.00 – 2/4/04	Modified existing 1.22 Recovery document to comply with Version 2.00 image changes.
2.50 – 8/25/04	Removed desktops: 6275-DUA/60U, 6275-FZA/80U, and 6563-60U/CWU from Support List.

	Added Desktop: 8183-D7U to support list.
	Added Laptop: 2723-F2U to support list.
	Removed NIC/Modem columns on support list and replaced with Current Image Name & Version for the model.
	Removed Ventura & Merced from Exchange list.
	Misc text cleanup.
2.51 – 10/27/04	Added Laptop: Gateway M405 to support list.
	Updated Workstation Reference Matrix with current image version information.
2.52 – 11/17/04	Updated Workstation Reference Matrix with current image version information.
2.53 – 1/20/05	Added Desktop: Dell GX280 to support list.
	Updated Workstation Reference Matrix with current image version information.
	Modified Butte, San Joaquin, and Tulare Exchange servers from *Exchange Server Name* table to show NS600108.
	Added process to modify screen resolution if user so desires.
2.54 – 4/26/05	Added Desktop: Gateway E4300 to support list & updated Workstation Reference Matrix with current image version information.
2.54a – 5/11/05	Corrected several typos.
	Added foot notes about Network/Version Check errors in co-existent counties.
2.54b – 5/13/05	Modified Butte in the *Exchange Server Name* table to show NB040101.
	Added steps for proxy setup to the Global Dialer configuration section.
2.60 – 6/16/05	Added Desktop: 8171-21U to support list & updated Workstation Reference Matrix with current image version information
2.61 – 6/29/05	Added Desktop: 8171-2DU to support list & updated Workstation Reference Matrix with current image version information
2.61a – 7/11/05	Corrected Butte information in Exchange Server Names table
	Added an Appendix to describe how to manually add "Power Users" for machines flopping back and forth between training and production.
2.61b – 7/13/05	Fixed formatting problem that showed up under Word 97
2.70 – 9/14/05	Replaced AT&T Global Dialer instructions with AT&T Net Client. Removed section for Remote Access Connectivity testing.

| 2.71 – 11/23/2005 | Added Desktop: HP-7600 to support list & updated Workstation Reference Matrix with current image version information.

Removed Appendix B (Exchange Mailbox Server List) from document and renumbered Appendixes C and D accordingly. |
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| 2.71a – 12/16/2005 | Made modifications suggested by QA. |
| 2.71b – 1/23/2006 | Modified section 3.7 to include instructions for configuring Microsoft Dial-up Client instead of AT&T Net Client. |
| 2.80 – 3/03/2006 | Made modifications suggested by QA.

Removed section 3.6 (ASA Workstation) as the following section (Configuration of Microsoft Dial-up Client) applies to both Laptops and ASA Workstations.

Added Laptop: IBM Thinkpad T43 (2687-D3U) to support list & updated Workstation Reference Matrix with current image version information. |
| 2.81 – 3/20/2006 | Added Desktops: HP e-PC 42, Gateway E4000, and Lenovo 8212-H1U to support list & updated Workstation Reference Matrix with current image version information. |
| 2.82 – 5/05/2006 | Added Desktop: Gateway E4500s to support list & updated Workstation Reference Matrix with current image version information.

Updated JDHELPER errors section on page 10 to reference moving the computer account instead of deleting it. |
| 2.83 – 7/07/2006 | Added Desktop: Dell GX-520 E4500s to support list & updated Workstation Reference Matrix with current image version information.

Added Laptop: Panasonic CF-29 E4500s to support list & updated Workstation Reference Matrix with current image version information.

Removed Laptop: IBM Thinkpad 600X from support list.

Updated section 2.4 (Recovery Process for all Desktops and Laptops) to remove the step associated with IBM Director configuration. |